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 IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Andrew HAYNS

Application No.: 09/202,500

Filed: march 24, 1999

For: LIQUID AND GAS PURIFICATION AND FILTRATION...

Confirmation No.: 2980

THE COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231

Sir:

Transmitted herewith is a [XX] REPLY TO FINAL ACTION: REQUEST FOR RECONSIDERATION in the above-identified application.

[] Small entity status of this application under 37 CFR 1.9 and 1.27 has been established by a verified statement previously submitted
 [] A verified statement to establish small entity status under 37 CFR 1.9 and 1.27 is enclosed.
 [] No additional fee is required.

The fee has been calculated as shown below:

	(Col. 1)	(Col. 2)	(Col. 3)
	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR
TOTAL	*	MINUS	** 23
INDEP.	*	MINUS	*** 3
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM			

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
x 9	\$		x 18	\$
x 40	\$		x 80	\$
+ 135	\$		+ 270	\$
ADDITIONAL FEE TOTAL			TOTAL	

- * If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.
- ** If the "Highest Number Previously Paid for" IN THIS SPACE is less than 20, write "20" in this space.
- *** If the "Highest Number Previously Paid for" IN THIS SPACE is less than 3, write "3" in this space.

The "Highest Number Previously Paid For" (total or independent) is the highest number found from the equivalent box in Col. 1 of a prior amendment of the number of claims originally filed.

[XX] Conditional Petition for Extension of Time

If any extension of time for a response is required, applicant requests that this be considered a petition therefor.

[] It is hereby petitioned for an extension of time in accordance with 37 CFR 1.136(a). The appropriate fee required by 37 CFR 1.17 is calculated as shown below:

Small Entity

Response Filed Within

[] First - \$ 55.00
 [] Second - \$ 195.00
 [] Third - \$ 445.00
 [] Fourth - \$ 695.00

Month After Time Period Set

[] Less fees (\$_____) already paid for ____ month(s) extension of time on _____.

Other Than Small Entity

Response Filed Within

[XX] First - \$ 110.00
 [] Second - \$ 390.00
 [] Third - \$ 890.00
 [] Fourth - \$ 1390.00

Month After Time Period Set

[] Please charge my Deposit Account No. 02-4035 in the amount of \$_____.

[XX] Credit Card Payment Form, PTO-2038, is attached, authorizing payment in the amount of \$ 110.00.

[] A check in the amount of \$_____ is attached (check no.).

[XX] The Commissioner is hereby authorized and requested to charge any additional fees which may be required in connection with this application or credit any overpayment to Deposit Account No. 02-4035. This authorization and request is not limited to payment of all fees associated with this communication, including any Extension of Time fee, not covered by check or specific authorization, but is also intended to include all fees for the presentation of extra claims under 37 CFR §1.16 and all patent processing fees under 37 CFR §1.17 throughout the prosecution of the case. This blanket authorization does not include patent issue fees under 37 CFR §1.18.

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RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 1724 *11-2202*

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY.'S DOCKET: HAYNS=1

In re Application of:) Art Unit: 1724
)
Andrew HAYNS) Examiner: I. Cintins
)
Appln. No.: 09/202,500) Washington, D.C.
Nationalized: March 24, 1999)
) Confirmation No. 2980
I.A. No. PCT/GB97/1319)
I.A. Filing Date:)
May 14, 1997)
)
For: LIQUID AND GAS) November 15, 2002
PURIFICATION AND...

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REPLY TO FINAL ACTION: REQUEST FOR RECONSIDERATION

Honorable Commissioner for Patents
Washington, D.C. 20231

Sir:

The applicant is in receipt of the Final Rejection mailed July 31, 2002, Paper No. 21. Filed herewith is a petition for one month's extension of time and payment of the late (petition) fee.

Applicant has carefully reviewed the final Office Action. The claims in the application remain as claims 18-23 and 30-33. These claims define novel and unobvious subject matter under §§102 and 103 for the reasons given below, and therefore the rejection should be withdrawn and the claims allowed. Applicant therefore respectfully requests favorable reconsideration and allowance.

Claims 18-23 and 30-33 have been again rejected as obvious under §103 from Wiegand in view of Novak. This rejection is again respectfully traversed.

While applicant does not withdraw the arguments against the rejection raised in the Reply of May 10, 2002, except for the top paragraph on page 3 thereof, applicant now wishes to emphasize the fact the proposed combination, even if obvious to a person of ordinary skill at the time the present invention was made, as indicated in the rejection, would still not reach applicant's invention as claimed. In other words, the resultant combination does not correspond with applicant's claims, and this is so for the following reasons.

1. The water proofing material disclosed by Novak is not a fatty acid, but is instead precipitated metallic fatty acid soap. See page 1, lines 1 to 4 of Novak which states as follows:

An object of the present invention is to produce a sizing material for use in treating fiberous material for use in paper, comprising a water insoluble, fatty acid soap. (emphasis added)

Also see page 1 , lines 41 to 48 of Novak:

...and the large proportion of unsaponified fatty acid which is present in emulsified form reacts directly with the aluminum sulfate to form the same aluminum soap that the resultant precipitate, **which is the final waterproofing agent**,... (emphasis added)

The emulsion produced in the process of Novak includes a saponifiable fatty acid in equilibrium with the precipitated fatty acid soap. In order to keep the presence of the soap to a minimum (to decrease foaming), the equilibrium of the reaction is in favor of the formation of a saponifiable fatty acid. However, **the saponifiable fatty acid is not the water proofing agent as is evidenced in the above passages**; rather, it provides a source of the active precipitate.

The passage referred to by the examiner on page 1, line 89 of Novak, merely mentions that fatty acids other than oleic acid may be used in this process of using a precipitated fatty acid soap as the water proofing agent. It does not teach that these other fatty acids may **themselves** be used as sizing agents.

Accordingly, it is clear that a combination of Wiegand and Novak would have resulted in the sizing of the Wiegand absorbent with a precipitated fatty acid **soap**, as taught by Novak, but not what is claimed. In contrast, the sizing material of the present invention comprises aliphatic carboxylic acids of a given chain length. Soaps do not form the sizing material of the present invention.

2. Neither Wiegand nor Novak relates to a filter. In this regard, applicant's main claim 18 calls for a filter material comprising a sheet-like matrix....

The rejection states that the Wiegand oil sorbent mat is a filter (which it is not) and comprises a non-woven sheet-like matrix, with reference to column 2, line 13 of Wiegand. But this is not accurate. The mat-like structure is what the Wiegang sorbent material is. It is not an element separate from the material comparable to applicant's material which is incorporated in the "sheet-like matrix". Thus, applicant's "filter material comprising a sheet-like matrix" has "incorporated" therewithin,

a material comprising a base formed substantially of cellulosic fibers onto which is adsorbed a composition comprising one or more aliphatic carboxylic acids having hydrocarbon chains consisting of 8 to 20 carbon atoms.

To briefly reiterate, the filter of the present invention comprises two components, namely (1) the matrix and (2) the material which is incorporated within the matrix, whereas Wiegand only has a "mat-like structure".

Applicants specification at page 3 states as follows concerning the matrix:

The matrix of the first aspect of the invention may be fabricated from a number of materials, including non-woven fiberous materials, open-cell foam materials or a cotton or viscose gauze. The unloaded matrix advantageously has a density not greater than 0.25gcm^{-3} , and preferably from 0.01 to 0.18gcm^{-3} . A particularly preferred matrix has a thickness of around 3mm and a density in the region of 0.1gcm^{-3} .

Applicant must also reemphasize the fact that the recitation of a "filter" defines what applicant's invention is. It is not merely a statement of intended use which can be properly brushed aside..

In this regard, the examiner's attention is respectfully invited to *In re Steppan et al*, 156 USPQ 143, 147. Here, the preamble of claim 25 read as follows:

25. An acid phosphate of a condensation product of....

The appellants argued that the expression "condensation product" defined "what the acid phosphate is", and the court reversed the rejection. Also see the somewhat analogous case of *In re Gernero*, 162 USPQ 221, 223, where in effect the Court held that the claim language "interbonded one to another by interfusion" defined the structure of the product. See also *In re Bulloch et al*, 203 USPQ 171, 174 (CCPA 1979).

Further in this regard, there should be no doubt that, as a general rule, all subject matter recited in a claim must be given full weight. A sometimes exception is when the claim preamble only calls for an intended use. The leading case in this area is *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

In *Kropa v. Robie*, the court reviewed thirty-seven of its own prior decisions in cases where it had determined

whether or not the claim preamble must be given effect. The court stated:

..., in those *ex parte* and interference cases where the preamble to the claim or count was expressly or by necessary implication given the effect of a limitation, the introductory phrase was deemed essential to point out the invention defined by the claim or count. In the latter class of cases, the preamble was considered necessary to give life, meaning and vitality to the claims or counts. Usually, in those cases, there inhered in the article specified in the preamble a problem which transcended that before prior artisans and the solution of which was not conceived by or known to them. The nature of the problem characterized the elements comprising the article, and recited in the body of the claim or count following the introductory clause, so as to distinguish the claim or count over prior art.

The same situation exists in the present case.

The examiner may wish to consider some cases which are more recent than *Kropa v. Robie*. Attention is therefore first invited to *Perkin-Elmer v. Computervision*, 221 USPQ 669, 675 (Fed. Cir. 1984), where the introductory clause of claim 1 called for a "unity magnification catoptric image-forming system...." In giving weight to such recitation, the court stated:

The system of claim 1 is one of unity magnification and is image forming. Those limitations appear in the preamble, but are necessary to give meaning to the claim and properly define the invention. [citations omitted]

In *Loctite v. Ultraseal*, 228 USPQ 90, 91-93, the introductory portion of claim 1 of the '012 patent read as follows:

1. An anaerobic curing sealant composition adapted to remain in a liquid, non-polymerizing state...

The court stated:

Although it appears in the preambles of the '012 patent claims, the term "anaerobic" breathes life and meaning into the claims and hence is a necessary limitation to them. [citation omitted]

The holdings of the lower court were vacated, and the case was remanded.

Attention is next invited to *In re Stencel*, 4 USPQ2d 1071 (Fed. Cir. 1987) where the introductory clause of claim 1 called in part for a "driver for setting a joint of a threaded collar, ... the collar having plastically deformable lobes on its longitudinal exterior ..., the driver comprising:".

In reversing the rejection, the Court stated:

We conclude that it would not have been obvious to [provide the applicant's invention] unless one had in mind the purpose taught by appellant. This purpose, set forth in the claims themselves, "is more than a mere statement of purpose; and that language is essential to particularly point out the invention defined by the claims." [citations omitted; bracketed material added]

Similarly, in the present case, the purpose of the present applicant to carry out a filtering operation is not to be found

in the applied prior art; this purpose, set forth in applicant's claims which call for a "filter", clearly "is essential to particularly point out the invention as defined by the claims".

Lastly, attention is respectfully invited to *Corning Glassworks v. Sumitomo Electric*, 9 USPQ2d 1962, 1965-66 (Fed. Cir. 1989). Here, claim 1 of the '915 patent recited an "optical wave guide comprising...." The Court stated:

In this case, the question of anticipation turns on claim interpretation,.... [citation omitted] If the claims are given Sumitomo's suggested interpretation, the [prior art] patent anticipates [claims 1 and 2 of the '915 patent]; otherwise, it does not. In particular, the dispute focuses on the interpretation and effect of the words "An optical wave guide" in claim 1.
[bracketed words added]

Sumitomo argued that the fiber of the prior art patent could "inherently" function as a "waveguide", and therefore the words "An optical waveguide" should be ignored because "the preamble is not a limitation when it merely states a purpose or *intended use* and the remainder of the claim completely defines the invention". (Italics in the court decision)

In affirming the lower court's decision of validity (no anticipation), the court stated in part as follows:

The effect preamble language should be given can be resolved only on review of the entirety of the [disclosure] to gain an understanding of what the inventors actually invented and intended to encompass by the

claim. Here, the 915 specification makes clear that the inventors were working on the particular problem of an effective optical communication system not on general improvements in conventional optical fibers. To read the claim in light of the specification indiscriminately to cover all types of optical fibers would be divorced from reality. The invention is restricted to those fibers that work as waveguides as defined in the specification, which is not true with respect to fibers constructed with the limitations of paragraphs (a) and (b) only. Thus, we conclude that the claim preamble in this instance does not merely state a purpose or intended use of the claimed structure [citation omitted]. Rather, those words do give "life and meaning" and provide further positive limitations to the invention claimed [citations omitted]. Thus, contrary to Sumitomo's argument, the core and cladding limitations set out in paragraphs (a) and (b) are not the only limitations of the claim [citation omitted]. The claim requires, in addition, the particular structural relationship defined in the specification for the core and cladding to function as an optical waveguide.

Similarly, the introductory clause of applicant's claim 1 is also a requirement of applicant's invention. The Court continued:

Viewed in this manner, the fact that the [prior art] luminescent fiber could inherently transmit information for a few meters becomes irrelevant. The [prior art] patent does not disclose all the limitations of the claimed "optical waveguide" as that term is structurally defined by the '915 inventors.

The examiner should be guided by the above quoted words of the Federal Circuit from *Corning Glass Works v. Sumitomo Electric*. Wiegand does not disclose or make obvious a filter.

Novak also teaches nothing at all about filters; instead, the teaching is concerned with sizing of paper. Thus, it is submitted that the skilled person would not have considered the combination of this document with Wiegand.

In fact, Wiegand provides a number of cross references to documents which teach sizing materials indicated to be suitable for Wiegand. See for example column 2, lines 7 to 10, and column 3, lines 45 to 48, which reference U.S. patents 3,630,891 and 2,754,206. These documents, which it is noted are classified in the same filed as Wiegand, disclose a number of sizing agents; see '891 column 1, lines 49 to 56 and column 2, lines 25 to 35. It would seem that the skilled person, when trying to provide an alternative sizing material to that disclosed in Wiegand, would have been directed by Wiegand to the content of the cross-referenced documents, as opposed to a document in the field of paper technology.

3. Even if the skilled person were to be directed to Novak, the method of applying the functional groups as claimed in the present invention is in complete contrast to that of Novak. With the present invention, the specific carboxylic acids are **adsorbed** onto cellulose fibres. Generally speaking,

the term "adsorbed" is taken to imply some form of chemical bonding between two entities. In the present case, specific means of adsorption are described in more detail on page 2, lines 24 to 30, of the PCT application as filed.

It is thought that the carboxylic acids are adsorbed onto the surface of the cellulose fibres by way of the carboxyl -COOH functional group, either through hydrogen bonding or through the formation of cellulose esters containing an -O-CO-R group formed with the hydroxyl -OH groups on the cellulose rings. However the carboxylic acids are bonded to the cellulose fibres, the result is that the material of the first aspect of the present invention comprises cellulose fibres from which project hydrophobic hydrocarbon chains. When the material is applied to a mixture of water and hydrocarbon pollutants, the hydrophobic hydrocarbon tails of the carboxylic acid residues serve to attract the hydrocarbon pollutants to the material and to repel water, thereby providing the required separation. The material, incorporating the hydrocarbon pollutants, can then be gathered up and used as a fuelstock.

See pages 2 and 3 of applicant's specification.

In complete contrast, the water proofing agent of Novak is a precipitate (See Novak, page 1, lines 3 to 5, line 45 and lines 81 to 84) which is precipitated onto the fibers as is recited in the claim of Novak on page 2, lines 77 to 80:

In the sizing of fiberous material, the method which comprises precipitating on the fiberous material during heating thereof an insoluble size...

As such, it is clear that the water proofing material of Novak are precipitated onto the fibers as opposed to the adsorption of the present invention. Therefore, even if the combination were obvious, respectfully denied by applicant for the reasons given above, such a combination would not reach the claimed subject matter.

Withdrawal of the rejection is in order and is respectfully requested.

Applicant believes that the commentary appearing in the Final Rejection has been substantially entirely addressed above. Nevertheless, for sake of assurance of completeness, applicant respectfully and briefly adds the following remarks:

As regards certain dependent claims, because neither reference discloses a matrix, it follows that neither reference discloses or makes obvious the use of any particular type of matrix as called for in claims 21-23, and therefore the proposed combination also cannot reach the dependent portions of these claims. The same applies to claim 30 and 32. As regards claim 33, neither reference discloses hydrophobic hydrocarbon chains projecting from cellulose fibers, and therefore no possible combination could reach claim 33.

As regards the commentary in the Final Action spanning pages 3 and 4, applicant has addressed this point

above. The product claimed is a "filter", and that is not a recitation of intended use. Applicant respectfully relies on the case law cited above.

As regards the point raised in the second paragraph on page 4 of the final Action, it is pointed out above that Novak does not teach applicant's sizing agent. Moreover, the person of ordinary skill in the art, if such person wanted to use a sizing agent different from that disclosed by Wiegand, would go to those references cited by Wiegand, not somewhere else totally unrelated.

Applicant respectfully requests favorable reconsideration and allowance.

Respectfully submitted,

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